Automatic Mapping of Geologic Features from ERTS-1 MSS Data Obtained over Fannin County, Texas

Discipline Category: 3I. Geomorphic and Landform Surveys

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Introduction

ERTS-1 Frame No. E-1002-16312 CCT data were received by Purdue University on 26 July 1972. The area chosen for this study was Fannin County, Texas. The objective was to utilize ADP techniques to analyze ERTS-1 MSS data in producing a geologic map similar to that published by the Bureau of Economic Geology, University of Texas.

Procedure

Two basic types of classifications were used on the Fannin County data. Completely automated (nonsupervised) methods were used in the first three classifications to pick and refine training fields. In the last two classifications training fields were picked using the available "ground truth", the map published by the Texas Bureau of Economic Geology.

Results

Computer maps obtained from the five classifications described above seem to show some of the geologic structure of the County. All classifications appear to show the contact between the Cretaceous Ozan and Austin Formations. The delineation between the Austin and Eagle Ford Formations is suggested in the computer classifications. Surface drainage patterns are well defined in all classifications.

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